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TPCM1213A-04S7
Uni-direction ESD Protection Array

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Features

- Low operating voltage: 5V
- Ultra low capacitance: 0.8pF
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test

Air discharge: ±25kV

Contact discharge: ±25kV

-IEC61000-4-4 (EFT) 40A (5/50ns)

-IEC61000-4-5(Lightning):4.5A(8/20μs)

- These are Pb−Free Devices
- Response Time is Typically < 1 ns

Reference:CM1213A-04S7

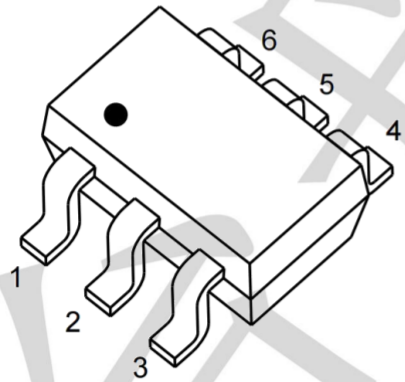
Mechanical Characteristics

- Package: SOT363
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

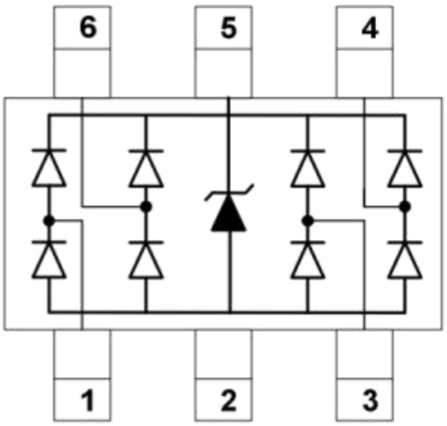
Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Industrial Controls

Dimensions and Pin Configuration



SOT363



Circuit and Pin Schematic

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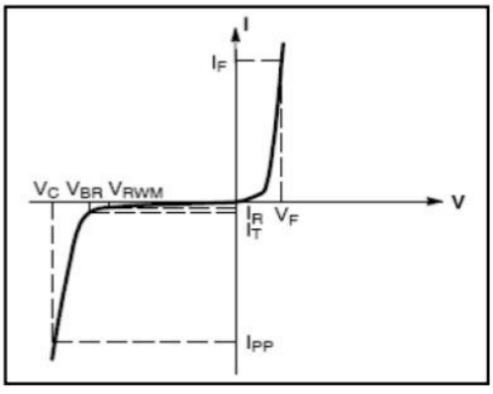
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	90	W
Peak Pulse Current (8/20μs)	Ipp	4.5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±25 ±25	KV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	3.3	5	V	Any I/O pin to ground
Breakdown Voltage	VBR	6.5	--	9.4	V	IT= 1mA,Any I/O pin to ground
Reverse Leakage Current	IR	--	1	--	uA	VRWM=5V,Any I/O pin to ground
Forward Voltage	VF	0.5	0.8	1.0	V	IF = 10mA
Clamping Voltage	VC	--	13.5	20	V	Ipp=4.5A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	13	20	V	Ipp=8A(8x 20us pulse), VCC pin to ground
Junction Capacitance	Cvo-GND	--	0.45	0.8	pF	VR=0V,f=1MHz, Any I/O to GND
	$C_{I/O-I/O}$	--	0.25	0.5	pF	VR=0V,f=1MHz, between I/O pins

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage
V_F	Forward Voltage@ I_F
I_F	Forward Current



V-I characteristics for a uni-directional TVS

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

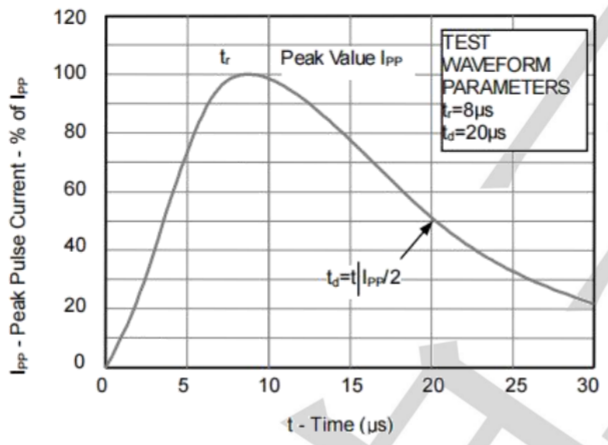


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

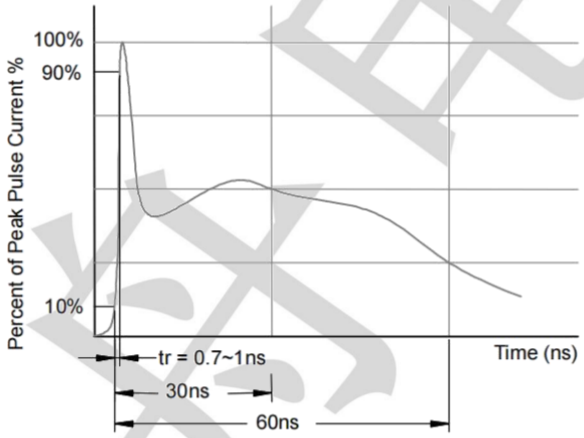
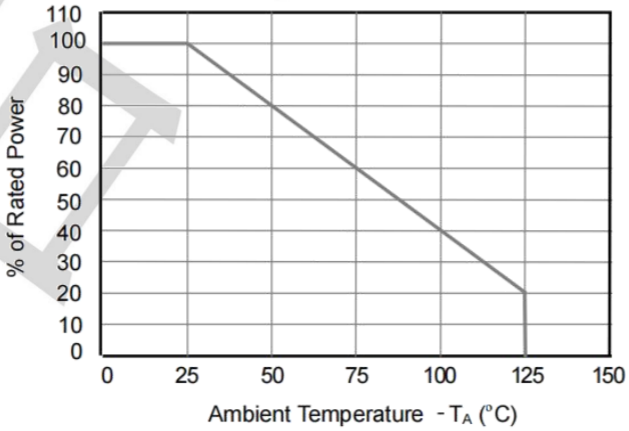
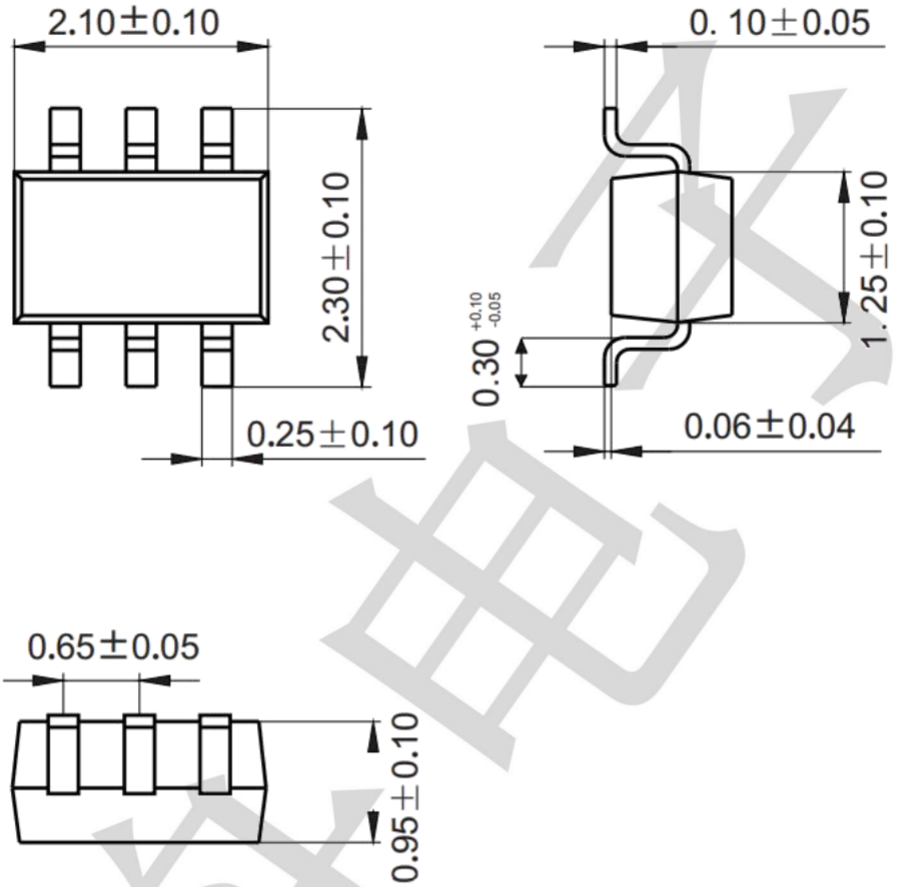


Fig3. Power Derating Curve

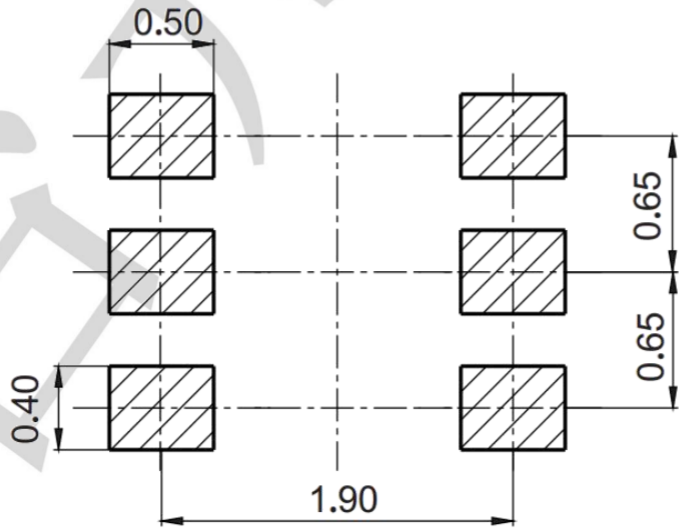


Package Outline Dimensions (unit: mm)

SOT363



Mounting Pad Layout (unit: mm)



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Global Electronic Components Distributor

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FDC6301N-TP LTH7 TPB05A40-323 TPZVN3320FTA TPS7B6950DBVR-TP BV15C ESD5B5.0ST1G-P FDMS7670AS-TP SI3932DV SN7002W TPD1213A-02SM TPESD0504S6-A TPADM809LAKSZ TPESD0402G08V TPZXMP3A13FTA TPESD5311N TPWSB5557Z DMP6350S IRFR2405TRPBF-TP TPADM809SAKSZ TPAPX809S-31SA TPDMG6602SVT TPS3809L30DBVR-TP BSN20W DDTA143ZCA QM3003J-TP TPB1A30-123 TPGC12C-1 TPFMMT493 TPSPX3819M5-L-3-3